

## WHAT IS CLAIMED:

1. An isolated nucleic acid molecule, comprising a sequence of nucleotides that encodes a rhesus monkey BRS-3 protein as set forth in SEQ ID NO:2.
2. The isolated nucleic acid molecule of claim 1 wherein the nucleic acid is DNA.
3. The isolated nucleic acid molecule of claim 1 wherein the nucleic acid is mRNA.
4. The isolated nucleic acid molecule of claim 1 wherein the nucleic acid is cDNA.
5. The isolated nucleic acid molecule of claim 1 wherein the sequence of nucleotides comprises the sequence of nucleotides set forth in SEQ ID NO:1.
6. An expression vector comprising the nucleic acid molecule of claim 1.
7. A host cell comprising the vector of claim 6.
8. A subcellular membrane fraction obtained from the host cell of claim 7 which contains recombinant rhesus monkey BRS-3 protein.
9. A process for expressing a rhesus monkey BRS-3 protein in a recombinant host cell, comprising:
  - (a) introducing a vector comprising the nucleic acid of claim 1 into a suitable host cell; and,
  - (b) culturing the host cell under conditions which allow expression of said rhesus monkey BRS-3 protein.
10. An isolated and purified rhesus monkey BRS-3 polypeptide comprising a sequence of amino acids as set forth in SEQ ID NO:2.
11. A method for identifying compounds that modulate rhesus monkey bombesin receptor subtype-3 expression, comprising contacting a test compound with rhesus monkey bombesin receptor subtype-3, and determining whether the test compound interacts with rhesus monkey bombesin receptor subtype-3.

12. A method for determining whether a substance is capable of binding to rhesus monkey BRS-3 (rhBRS-3) comprising:

- (a) providing test cells by transfecting cells with an expression vector that directs the expression of rhBRS-3 in the cells;
- (b) exposing the test cells to the substance;
- (c) measuring the amount of binding of the substance to rhBRS-3; and,
- (d) comparing the amount of binding of the substance to rhBRS-3 in the test cells with the amount of binding of the substance to control cells that have not been transfected with rhBRS-3.

13. A method of identifying a substance which modulates rhBRS-3 receptor activity, comprising:

- (a) combining a test substance in the presence and absence of a rhBRS-3 receptor protein wherein said rhBRS-3 receptor protein comprises the amino acid sequence as set forth in SEQ ID NO:2; and,
- (b) measuring and comparing the effect of the test substance in the presence and absence of the rhBRS-3 receptor protein.

14. A method for determining whether a substance is a potential agonist or antagonist of rhBRS-3 comprising:

- (a) transfecting or transforming cells with the expression vector of claim 6, resulting in test cells;
- (b) allowing the test cells to grow for a time sufficient to allow rhBRS-3 to be expressed;
- (c) exposing the cells to a labeled ligand of rhBRS-3 in the presence and in the absence of the substance; and,
- (d) measuring the binding of the labeled ligand to rhBRS-3; where if the amount of binding of the labeled ligand is less in the presence of the substance than in the absence of the substance, then the substance is a potential agonist or antagonist of rhBRS-3.